

THE
SOUTHERN AGRICULTURIST.

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PART I.
ORIGINAL CORRESPONDENCE.

ART. I.—*An Essay on the Culture of the Grape Vine, and the making of Wine; suited for the United States, and more particularly for the Southern States.* By N. HERBEMONT, of Columbia, S. C.

“And Noah began to be an husbandman, and he planted a vineyard.”—
GENESIS c. ix. v. 20.

(Continued from page 203.)

On Vintage.

IT is usually the practice in Europe, to have many kinds of grapes in a Vineyard; and it is generally recommended by writers and practical men, to mix several kinds by which, they say, the wine will be of a superior quality, than if it had been made of one kind alone. This, like many other old maxims, must be taken with very great allowance, and the proposition, as it is generally announced, is false; that is, it conveys to the mind an erroneous impression. It must be true, that the grape best calculated to make good wine, cannot be mixed with any of the inferior kinds, without deteriorating the proceeds. The more of a superior kind of grape one has in his Vineyard to mix with those of less value, the better will the wine certainly be; but it will not be because of the mixture, but because a quantity of that which is good, has been added to that which is indifferent, by which the product must be improved. Who can doubt,

then, that if the wine had been made entirely with the grape used for improving the rest, it would have been much better? The proposition has then been incorrectly announced, or it is entirely false, when, without any further explanatory views of the subject, by which it is made partly true.

Some kinds of grapes make a wine that is very strong and rich, but only in small quantity; others make an abundance of wine that is too weak to be kept long. Another kind produces a wine sufficiently abundant and strong, but it has not the pleasant flavour, called, technically, 'bouquet.' Another is deficient in strength, but has this delightful flavour, which it is desirable the compound should possess. Another has many of the most desirable qualities, but it wants that beautiful colour that is so pleasing to the eye, and to which much value is attached in Europe;—whilst another has no other recommendable quality but that of yielding this colour so much desired, &c. It is very evident, then, that by a judicious admixture of ingredients, possessed of all the desirable qualities, the result will probably accord with the expectation. Are there any kind of grapes, which, converted into wine by themselves, will produce that which is of a very desirable quality? Most undoubtedly there are. Why then are Vineyards so generally planted with such a variety of grapes, as sometimes to amount to upwards of twenty kinds? We must look for the answer to this question, to the negligence, poverty, indifference, or ignorance in those who planted them. For my part, with those I cultivate for wine, I have experienced no admixtures but what deteriorated the product. Yet, I believe it very possible, that my Vines might be improved by some particular kinds of grapes, mixed in very particular quantities; some kinds being suitable to mix with each other with advantage, when others would do an injury. To ascertain all this, requires numberless and expensive experiments, which must take many years before the result can be at all satisfactory. This can only be expected to be done when we have a great number of persons engaged in this pursuit. Until, therefore, this period has arrived, it is most advisable to make the different kinds separately, which, indeed, is the first proper step to begin the series of experiments; for, by this, you ascertain the particular qualities of each. In the beginning of an establishment, the quantity of each kind will most probably be too small to be made separately; and,

therefore, all that are ripe at the same time, must be mixed together. This, however, cannot be considered as a part of the series of experiments, because the first products of a Vineyard are generally of an inferior quality. The quality of the wine increases with the age of the Vine for many years.

The best kinds with which I have, as yet, made wine, are first, the Madeira grape. Any mixture of other kinds with this certainly is an injury, as far as I have tried. By itself it is an excellent wine. This Vine bears most abundantly, and generally ripens about the middle of August. Second, the *Lenoir*. I have so little of this, that I have not mixed any other kinds with it to try the result; but I am perfectly satisfied with it by itself. It appears to be a wine between Burgundy and Claret; and it is an excellent, rich wine, with a full body and fine flavour. The Vine is very vigorous, never rots, but bears only a scanty crop, though a sure one, except for the birds that prey upon it most destructively, as it is the first to ripen, which it does sometimes as early as the middle of July.

Third, the *Red Muscat*. (I believe this is called, at the North, 'Blands' Madeira.') This might, perhaps, make a good wine, mixed with the Madeira; although I should not like to try a large quantity of it, as it is a pulpy grape, the juice of which is more difficult to settle than the others; and it ripens somewhat later. It is a very vigorous Vine, and a great bearer. It makes a very pleasant wine, but not equal to the first.

Fourth, the *Isabella*. This is said to be a native of this State. It is a strong Vine, and great bearer. The fruit is large, and handsome when it ripens altogether, which is seldom the case. It has the flavour of the Fox grape, which I consider a great disadvantage to it. The wine it makes is beautiful, as to colour,—a brilliant red, or rather purple—has a good body—is strong enough—rather too heady. It would be very good but for its peculiar taste, which, however, diminishes in time, and the wine improves with age.

Fifth, the *Arena*. This is a native of our sand-hills, which improves much by cultivation, bears abundantly, and makes a most excellent wine, *sui generis*; this wine, however, is not fit to be judged of till it is at least one year old. Before this, it has a wild unpalatable taste, which persons not acquainted with the fact, could not suppose it possible

ever to make good wine, which it certainly becomes. It ripens in August; it is of a claret colour.

Sixth, the *Bullace*, or *Muscadine*. This ripens later, and would probably make a pleasant red wine, were it not very difficult to gather only such as are fully ripe; for this grape, like the Scuppernong, which is a variety of it, and is also most undoubtedly indigenous to this country in the Southern States, does not ripen all at the same time, and the berries drop when they have attained their maturity; so that you must be several weeks gathering your crop off the ground below the Vines.

I have tried several other kinds, but in such small quantities, as to be inadequate to a fair trial.

When the maturity of the grapes approaches, it is necessary to prepare every thing for the vintage, and never leave that to be done late, when, perhaps, you may not have it in your power to do it well.

There is nothing to which cleanliness is more necessary, than in the process of gathering grapes, and making wine. In this respect, it is like a dairy, the produce of which can never be of a good and desirable quality, if the utmost cleanliness about the vessels used, has not been most fully attended to. I know of nothing that is more apt to take the taste of any thing in contact with it than wine. It is even asserted on very good authority, that strong scented weeds, when suffered to grow in a Vineyard, will impart their taste to the wine made from it. Hence it is, that so many imitations of particular wines are attempted sometimes with tolerable success. It is well known, that Teneriffe put into a cask which has had Madeira in it, and which contains yet a small quantity of the lees, will impart to the former, the taste of the latter; by which means, Teneriffe is often sold for Madeira.

Before you attempt to gather your grapes for wine, see that they have attained the highest degree of maturity; for, that highly saccharine quality in grapes, by which alone they can make rich and durable wine, is the last produce of maturity. The same grapes which make a very generous wine when full ripe, would have made but a weak acid one had they been gathered two weeks sooner.

It is proper here to observe, that it is desirable to gather all the grapes that have attained this proper degree of ripeness, in as short a time as possible; so that all that is of the same quality, be made in the same vat at the same time, af-

ter having been all gathered in one day. The principal reasons of this are, first, that the greater the quantity (within practicable bounds) the better, and the more regular will the fermentative process be; and, therefore the quality of the wine superior. Secondly, as it is very difficult to have a large quantity of grapes in one vessel without bruising many of them, and have, therefore a considerable quantity of juice in the bottom of the vessel. If you are more than one day in gathering that which is to be made into wine at one time, that quantity which was first gathered, will have commenced fermenting, when the last is yet in the Vineyard. The fermentation will, therefore, be irregular, which is to be avoided. It is then necessary to procure as many hands as are adequate to the task of gathering, in one day, all that is to be fermented together. Any kind of hands, such as children and old people, will do very well, and can generally be hired at a low rate. Every one of these is to be provided with a pair of scissors and a basket of the contents, of about half a bushel or a little less. A wagon or cart with hogsheads, having one head out, must be ready, as near the Vineyard as practicable, into which a few of the strongest hands are to carry the grapes as they receive them in a suitable vessel from the baskets. An overseer must see that the gatherers are very particular in cutting out all such grapes as are green, rotten, or otherwise unsound, and by no means to suffer such to remain with the rest. When it happens that a small bunch has only a few sound berries on it, it is best to pluck them off and put them in the basket, throwing away, of course, the woody part or the rotten ones. Care must also be taken, that the gatherers do not eat bread, cheese, or indeed any thing else, while they are gathering the grapes, lest some of the crumbs falling into their baskets excite an undue fermentation, or add an improper taste to the wine. When the hogsheads are filled with grapes, they are to be transported to the cellar which contains the vat and other apparatus for mashing and fermenting them. The vat must be of such a size, that when the mashed grapes are all put into it, it will not be more than about two-thirds, or at most, three-fourths full. If this is not attended to, much of the new wine, which, in this state is called *must*, would be lost, as the fermentation causes the grapes to rise much, and thus to increase considerably in bulk.

The mashing or bruising of the grapes is performed in different ways; most generally, by trampling with the naked feet, previously well cleansed by due washing and scouring. This, though in appearance a deviation from the advised cleanliness, is, in reality, not so; for, I can see no reason why a man's feet, being duly prepared, should not be as clean as his hands. This method is considered the most effectual, and is, therefore, the most generally practised. The man can feel with his feet, when the grapes are properly bruised, and when scarcely one of them remains entire; whilst there is no other means of ascertaining it so effectually by the other methods. The next manner of performing this operation is also by trampling a small quantity at a time in a box, pierced with many small holes, and supported over the vat by two pieces of timber or scantling across it. In this case, the man's feet are armed or rather shod with wooden shoes; and when the small quantity in the box is well mashed, it is thrown into the vat, by raising a sliding board on the side of it, and raking out the mashed grapes; after which another small quantity is put into the box and treated in the same manner, till the whole is done. Another method, very similar to this, is that which I first used and still use occasionally, that is, to take wooden pestles instead of wooden shoes.

I have never read, seen, or heard of any other manner of mashing the grapes; and it is particularly surprising, that in very extensive establishments, contrivances are not adapted that may perform this operation in a speedy and effectual manner. Probably the fear that a machine might crack the grape seeds, which would be very injurious to the wine, is the reason why such a machine has not been used; for it is most obvious, that a pair of rollers would answer the purpose. Satisfied that the dreaded inconvenience might be obviated, I, last year, constructed a machine with two plane or smooth rollers, so fixed, that, by means of wedges, they may be brought sufficiently near to crush all the berries, and sufficiently far apart as not to crack the seeds. The rollers are, besides, made of tupela, which is a soft wood. They are about six inches in diameter, and two feet long. A crank at each roller turned by two little boys with perfect ease, answered my purpose tolerably well. Besides the two little boys for turning the rollers, it required a careful man to draw the grapes along an inclined plane on which the

grapes were deposited, so as to fall evenly between the rollers, which, being fixed temporarily over the vat, the latter received the mashed grapes. I found this mode very expeditious, cleanly, and tolerably effectual. This contrivance might be improved, probably by adding another pair of rollers under the former; so that the few berries which may have escaped the first pair, may almost surely be mashed by the second.

Whichever of these methods has been used, as soon as the operation is done, it is proper to stir well the whole together, so as to mash them more thoroughly, if possible, and then cover the vat with clean boards, or any thing else, and let it lie still to ferment a shorter or longer time, according as the weather is warmer or cooler.

It is impossible to give a general and sufficient rule, regulating the time the mashed grapes are to be left fermenting in the vat. This depends on so many circumstances, that it is not easy to include them all; after which it would have to be left to the experience, judgment, and object of the person who conducts the operation. Some wines are not at all fermented in the vat, as the Champaign;—others are fermented but a short time; and this is the case when a light coloured and delicate wine is the object;—others are fermented much longer, when the intention is to obtain a highly coloured wine, with strength, astringency, and body enough to ensure its durability and its improvement by age. Others are fermented still longer, when the object is to distil the proceeds into brandy. The delicacy of taste in the wine is no object in this case; but it is as desirable to have as great a product in spirits as can be obtained; and this is effected by suffering the fermentation to proceed so far as to have converted the whole saccharine and other fermentative matters into alcohol.

If the weather is warm, as it is generally in this country, during the time of vintage, the fermentation goes on very briskly, and will commonly have been sufficient after from twelve to twenty-four hours for usual purposes. The smell of the matter in fermentation as also its taste, help to form the judgment; for a strong and pungent smell of alcohol will be diffused on uncovering the vat, which, together with a sharp taste in the must, indicate the approaching time for drawing off the must, and carry the residue or *murk* to the presses that the whole of the juice may be extracted. An-

other sign is this :—the contents of the vat increase considerably in bulk during fermentation, as was said before ; and it will rise in such a manner, as to assume an upper surface of considerable convexity. Once or twice during the process, it is well to break through this convex surface, which is called the *cap*, and to stir the whole so as to mix it well. It will soon rise again, and grow very sensibly warm. Some persons wait to draw off the must until this rising convex surface or cap begin to subside, and then lose not a moment; for then the fermentation may go too far and there is some danger that the vinous may give place to the aceticous fermentation, whereby you would obtain vinegar instead of wine. It is then more safe not to wait till you run such a risk, particularly when the thermometer is as high as 80° or 90° or more, which is frequently the case here. During such hot weather the fermentation goes on very rapidly; but, with attention, you run no danger, and I never have found any difficulty in this.

You then draw off the must out of the vat, by means of a large spigot near the bottom of it, with a small bit of basket work, or a small bundle of twigs placed inside the vat, so as to cover the aperture of the spigot, to prevent the murk from running out with the must. The must is then put into very clean, sweet, and very tight casks, and filled to within three or four inches of the bung hole, so as to leave a space for fermentation to proceed, and not lose the wine that would overflow with the foam and lees, if the cask was too full. Some persons fill up their casks quite full, by which much scum and lees are thrown off by the fermentation; but, as a quantity of must escape with these, and these will subside to the bottom of the vessels, it is a pure loss without any advantage to make up for it. The bung hole is then covered with a tile or some such thing, or, which is better, with a small bag filled with sand; or, which is the practice I have followed, with three or four grape leaves loaded with a double handfull of sand, a little moistened. This acts as a valve, which the fermentation raises and lets out the generated air or carbonic acid gas, which, if the vessel was closely bunged, might burst it, unless it is uncommonly strong and made for the purpose. Besides, as atmospheric air is necessary in the process of fermentation, this might be stopped if the air was excluded. The hissing noise indicates the continuation of the fermenta-

tation; and, when this begins to abate, it is necessary to add a little more of the must to the casks, so as to bring nearer being full; and when you can no longer hear this hissing or boiling noise, add still more of the must till the cask is within an inch or an inch and a half of being full, and then put in the bung, driving it slightly in. This precaution is not alone sufficient, for, unless your vessel is very strong, it might burst or force open a joint, by which your wine might leak out before you are aware of it, which has happened to me. To prevent this, make a small hole with a gimblet near the bung, and stop it at first very loosely, with a peg left so long, that you may conveniently take it out, which you must do at first, at least twice a day, leaving it open for a few minutes—and afterwards only once a day; and when you find the danger is over, drive it in tight. Still observe often, and pull out every three or four days to let the accumulated gas escape. Finally, drive in both the bung and the peg tight, after having filled up the cask to within an inch, and let it rest. After this, nothing is to be done to it, except filling up the casks once a fortnight, until after about two months, when, availing yourself of clear frosty weather, you are to draw it off into other casks prepared to receive the new wine, in the manner to be hereafter described, for I must now return to the vat and the press.

(*To be continued.*)

ART. II.—*On the Cultivation of Clover; by HUGH ROSE.*

*Sir,—*It is the opinion of many Agriculturists with whom I have conversed on the cultivation of Red Clover, that the heat of our climate is too intense for its successful culture. I have repeatedly asserted to the contrary, and I know from actual experiment, that Clover will flourish in our climate, and grow with nearly as much luxuriance as in any other country. In proof of my assertion, I will state for the information of our Planters, generally, that about ten years ago, I had two large beds prepared in my plantation garden, for the Red Clover seed. The soil was a stiff,

tenacious clay, which was well pulverised by tillage before the seed was sown. The best time of sowing clover-seed in our climate, is, when our native grasses are on the decline, or rather cease to grow. The first week in October, or even earlier, the red clover-seed should be sown, and the plants will acquire sufficient strength to resist the severity of winter, unless there is a very unusual and early succession of severe frosts, in which case they might be destroyed. The objection to sowing the seed in the spring, is, that our native grasses would destroy the clover before it would attain a sufficient growth, the progress of which is, for a long time, very slow. The soil most congenial to Clover, is a stiff clay, and I do not believe that it will succeed in *light land though rich.*

The Clover I planted, grew to the height of about eighteen or twenty inches, and blossomed early in May, when it was cut and given to plough horses;—it underwent a second cutting in the latter end of July, and was then permitted to go to seed, which it did annually, for five years, though classed as a biennial plant. I have this year planted a few acres of red Clover, but could not, from a want of rain, sow the seed until late in November, which is much against its success, but it was unavoidable.

About four quarts of seed, intermixed with a bushel of ashes, is sufficient to sow an acre of land in drills, a foot apart; the seed should be covered very lightly.

Our important staples of Rice and Cotton, and the valuable crops of Corn and Potatoes, so essential as provision, so wholly engross the attention of our Planters, that I believe but very few experiments on artificial grasses have been made, however beneficial they might prove. That red Clover on a *clay soil*, will grow with luxuriance in our climate, I have uncontestedly proved; and very confidently recommend its culture to those who may wish to give it a trial. I am, very respectfully, Sir, your most obedient servant,

HUGH ROSE.

Charleston, December 5, 1827.

Note. We have seen the Red Clover growing in the greatest luxuriance in a garden in this city, in the month of February; and we see no reason, why it might not be sown

and used for spring pastures for our lambs and young calves. That it is not so easily killed as is supposed, we will state that we knew a small piece of high sandy soil sown with it about five years ago, but being sown in the spring, (which proved very dry,) it came up badly, and grew very slowly; the native grasses completely overtopped it in a short time, and it was supposed that there was an end of the Clover experiment. It was not all, however, killed; and in the winter, some of it came up and grew luxuriantly. We had occasion to visit the same plantation last winter; this spot had been left unprotected, and we never expected to have seen any of the Clover remaining at this late date. What was our surprise on passing the spot, to find it covered closely with a fine green carpet. It was very low, for the cattle having free access, never permitted it to grow to any height; but it had spread, and whether it had seeded and sown itself, or had covered the ground merely by extension, we know not, as we had not seen it for some time;—this much we know, that it had spread surprisingly.

The great fault, which has been, we believe, committed by all who have experimented with artificial grasses, especially Clover, has been, that they have sown them in spring, when our native grasses soon get a-head and destroy them. Mr. Rose sows his seed in the autumnal months, and succeeds. This will be a hint worth attending to by all who may hereafter wish to introduce this artificial grass, or to cultivate any of the Clover family. We hope Mr. Rose will inform us of the result of the sowing he made last November.—*Ed. So. Agriculturist.*

**ART. III.—*Hints, at some of the Causes of those evils
Young Planters complain of, and a remedy proposed;
by W. W. HAZZARD, of St. Simon's, Georgia.***

Your laudable efforts, Mr. Editor, to enlarge the knowledge of the Agriculturist, improve the condition of the Planter, and encourage industry in the Farmer, deserves the co-operation of your subscribing friends, and the patronage of every husbandman, nay, every man who loves comfort and seeks independence.

In compliance with your request, I think we may remember, with some sad feelings of regret, the good old pastimes of plenty and comfort in Carolina; when we considered it quite a glorious feat, to have our shoulders nearly dislocated by the discharge of an overloaded, old, rusty, plantation gun, to salute the rising sun, and rouse the slumbering household on a cold, 'merry-Christmas, good morning;' and then archly intercept the family, old fashioned, massy silver waiter, crowned with whole bumpers of egg-nog, as the maid-servant was entering the bed-rooms, where our old widowed aunts, our old-maiden sisters, and, perhaps, a half dozen or so first, second, third, and even fourth cousins were all dozing; for, in the good old times of which I am speaking, tradition tells us, it was not considered unfashionable nor stupid, to cousin the third and fourth generation of those who esteemed you as such.

I love most of our good old customs still, and think, if fashion has smoothed down society into a more polished surface, it has failed to strengthen social virtues:—in truth, how like a midnight phantasy of the brain, have those pure, those virtuous and happy scenes of boyhood gone by! Why has mirth deserted the halls of our forefathers, and why has the halloo of boyish revelry ceased to be heard through the spacious walks of our country gardens? Could those walls speak, or the shrubbery answer, they would tell us it was prodigality and bad management; it was because our fathers neglected to plant Corn, Peas, Potatoes, and Pumpions. Our forefathers had always raised enough of them on their plantations for all domestic purposes, without sacrificing their Indigo crops to buy those essentials at an exorbitant price, when they were most needed, as our fathers often did afterwards, in bartering their Cotton for Corn. I have it from a Planter in Liberty County, that thirty thousand dollars has been paid out of that county, in one year, for the article of Corn alone!

It may have suited a Roman well, to adopt and act up to his motto, *hic agi*; for, like our ancestors, if he wished to extend his fields, or procure those necessaries which negligence, or his limited means had deprived him of, it was only to be accomplished by acting in the two-fold capacity of citizen and soldier, and to fight valorously for what he wanted, or even to protect what he had earned; and to do this only, and that well, was a good maxim. Decius con-

sidered it a plain proof of the evil intentions of Coriolanus, when he plundered the country of the Antiates, and divided the *corn* among his famished soldiery, rather than bring the spoils to the public treasury, and encourage those soldiers to cultivate Corn. It would be folly for the opulent land-holder in France, to talk of the *le desir d'augmenter*, while the productive power of the country is so great, its productions do not supply the wants of that power.

Individual accumulation under such circumstances, would tend to increase all the horrors of pauperism, check the increase of population, and weaken National Power. This is virtually true, as to riotous England, and unhappily oppressed Ireland; and it was a characteristic remark of the Highlander, ‘na oats, na porridge,’ as he cast a sorrowing look over the rugged face of his long loved country, and bid adieu to Caledonia’s storied mountains, lochs, and dales, to seek a better living in some distant land ;—and the time was, when it may have been said of the Southern Agriculturist, no cotton, no food, no raiment !

Every individual, therefore, should provide land to produce grain, pulse, and roots, for his personal, family, and plantation purposes, as he rarely cares for others or for posterity :—his views should be as restricted as his means, rarely transgressing the circle of his private business, as his industry is confined by the state of society in which he lives ; as the savage is by his customs, the European by his excise, and in time, the Southern Agriculturist by ad valorem duties. A nation should provide for the social wants of the majority of its members, as far as these individuals cannot satisfy those wants by their private exertions :—she should provide not only for Peace, but for War—not only for the present, but for future generations :—her views should be extended not only over the whole space of land she possesses, but over the whole globe, so as to regulate her polity by the political conditions of the Powers she intends to form a profitable compact with.

An individual, in promoting his own interests, should never injure the public interests, unless his own interests are unconstitutionally interfered with. A Nation, in promoting ‘the general welfare,’ should never check the industry of a part of its members, to enrich an avaricious minority.

“It is bad policy,” continues that able writer, Mr. List, in his *Outlines of American Political Economy*, “to regulate every thing, and promote every thing, by employing

social powers, when things may better regulate themselves, and can be better promoted by private exertions; for, he thinks an individual may grow rich by extreme parsimony; but, if a whole nation should follow his example, there would be no consumption, and, in consequence, no support of industry. The more the individuals of the Southern States endeavour to supply the low price of Cotton in England and France, by planting greater quantities, the less will Cotton bring in England and France; the less will the nation derive income from that branch of industry;" and the slower will individuals remove their embarrassments, and increase their comforts and independence.

We should not then stake our whole interest on Cotton and Rice alone, but divide our attention by divers crops, that are less precarious, equally, perhaps more profitable than either, or, at least, will divide the risk on both. Although much has been said, and a great deal more written on the deterioration of our soil, the necessity of manures to fetch it back, and the particular manure best calculated to effect this desirable restoration; it is apparent from the labour used in manuring with salt-mud, and marsh trodden mould, and the small benefit resulting on this island, that a cheaper and better system has generally been pursued here for many years, which has rendered soils productive of 200 lbs. clean Cotton, which were sold by their former owners, being exhausted by successive crops, and all that has hitherto been considered absolutely necessary here, is to divide our worn out land into two or more full-shifts of fields,* and enclose the whole; confining our cattle and etcetras in a pasture, fenced off for that purpose, and never brought into culture again; or, if our local position admits, turn them to graze on our extensive barrens, and feed them in winter† in pens moved every Saturday about the fields, or to the poorest spots;—there is, in fact, a renovating principle in land

* There is no useless theory advanced here, for, by this system, with quarter draining, I have rendered a tract of land as productive as any on St. Simon's. The late Major Page, a most judicious, and, consequently, a successful Planter, assured me he could have once purchased the same land of Mr. Main, formerly of Savannah, at less than half the price I paid, but declined, considering it what is called bush and blue cotton land.

† This can be done all the winter, by planting turnips, using cotton seed and gathering your corn in the husk, and feeding them out in a rack made of rails, and moved with the foot and rail pen every week.

itself, if let alone; but we seek after high designs, forgetting the good old rule, 'never to plant a field in succession, unless to break it up and reduce it.'

An unadvised regard to public opinion, which is apt to touch the most tender parts of our nature, and the loss of that standing in society, which hangs on mere wealth for distinction, and should be scorned by true merit, and yielded up cheerfully to the vain and ostentatious; yet, as it keenly pierces our pride, we strive to keep up the style and dignity of our forefathers, unmindful, that the fortune inherited by one was not only sufficient to supply his wants, but his luxuries; yet, when separated into lesser parcels, and distributed among numerous families, (for the old gentlemen seems to have obeyed with wonderful precision, that injunction of Holy Writ, 'go, multiply and replenish the earth,') gave to each but a bare maintainance if properly economised, and to a want of this economy may be attributed most of the evils we young Planters complain of. This is the cause why we are strangers in the mansion-halls of our fathers, and why we are no more seen in the spacious walks of their gardens; because we have had to wander away from the sweet spots of our nativity, to lay up in manhood for the exigencies of old age;—and, in a word, this is the reason why we should adapt our views and tastes to our circumstances, and endeavour to become more of the *Farmer*, and less of the *High-minded, Country, Gentleman Planter*.

He who can soonest put himself to the adverse events of life, and most easily blend the qualities of the Scholar, the Soldier, the Gentleman, the Planter, and Farmer, has, in my humble view, nearly reached human perfection. This is in reach of most men—still grasped by few. Our time, then, as well as our fields and crops, might be well assorted, and as beneficially managed; and, after separating our fields into two or more equal parts, and sub-dividing these parts into four unequal sections, and finding our planting concerns progressively conducted; we might then devote the warmth of mid-day to acquire those qualifications which constitute the Scholar, Soldier, Gentleman, or Moral man;—for, unless we are grateful for blessings enjoyed, we may be without them, and suffer all the afflictions of another hegira.

In our field-divisions, the largest of the sections should be set apart for Cotton, if high land soil be the subject of culture; listing in the fine stubble, and heap and burn the

crude weeds, which will destroy the insects they generate, and the alkali of the ashes is certainly preferable to the tardy decay of a ligneous weed; the size of this section should be equal to three acres of Cotton to each full field hand. Our next section, large enough to plant one acre and a task of Corn, Peas, and Potatoes, for every labourer. The third section, to plant a half acre of Sugar-Cane to every full hand; and the fourth, to plant one task of Spanish Yellow Tobacco to each hand, making, in the whole, five acres of land in culture, to every ratable hand, one-eighth or one-tenth of labour, (if your land is light and healthy,) being previously discounted for sickness and loss of time.

If it is supposed that the making of Sugar is too expensive for domestic purposes, or to be conducted on a small scale to supply the deficiencies of a Cotton or Rice Crop; I can only assure you, Sir, that I have two samples of as good Sugar as you would desire to use, which was manufactured by a gentleman in this county, (Glynn,) from a patch of Cane about his house, which yielded him sixty gallons of syrup, with sugar to supply a small family; boiled in three common, large, iron pots, and ground by a pine-wood machine, a plan of which I have roughly sketched to give yourself and friends a better idea of it, and the original was constructed by the jobbing carpenters on the plantation.

As to the superior profit and wholesome culture of the Spanish Yellow Tobacco, in preference to that detestable, deliterious, and more precarious crop of Indigo, as suggested by one of your correspondents;—I will only ask, in concluding these remarks, which have, indeed, been already extended far beyond my first intention, to do me the favour to insert the enclosed essay on the culture of this tobacco, by Mr. Clarke, of St. Augustine, with the subjoined statements of two respectable gentlemen. Very respectfully, Mr. Editor, my best wishes are for your increasing usefulness.

WILLIAM WHIG HAZZARD.

West-Point, St. Simon's, Feb. 28, 1828.

Note. With the above communication, we received a drawing of a simple machine, for grinding of the Sugar-

Cane. We have been disappointed in procuring the engraving in time for this number, but will insert it as soon as it is finished. Colonel Hazzard's letter will be found interesting to osm of our Planters, and we should like to have the subjects treated of by him, freely and often discussed in our pages. The following essay on the cultivation of the Cuba or Havana Tobacco, by Mr. Clarke, is the one alluded to by Colonel Hazzard. It was sent on to us some time ago, but various causes prevented its publication at that time, and we now give it with much pleasure.—*Ed. So. Agriculturist.*

ART. IV.—*On Spanish Tobacco, &c.; by GEORGE J. F. CLARKE, of St. Augustine, Florida.**

*Mr. Editor,—*Spanish Segars, as they are generally called, are now in a fair way to become, immediately, a lucrative article in the exports of this province. The experiments of the last summer and this, have evinced, notwithstanding the uncommon droughts of both, that we make as good Spanish Segars as they do in Cuba; and, certainly, with more profit, by at least the amount of duties on importation. And why should we not exceed them in this article? We have improved on their Oranges and Sugar-Cane. I do not hesitate to give, as my opinion, that our Segars, generally, will be intrinsically better, and that we will make more of them to the acre than they do; because of this singular mediocrity in the temperature of our climate; and that more removed from drought and deluge, and from the frequency and violence of the winds. The genial influence of these is potent in our extraordinary assortment of indigenous vegetables. As to the soil, we can make that what we please with but little expense or labour, for nature abundantly furnishes the means on every side. Our Orange trees are larger, and so are their fruit, and finer flavoured. Our Cane has lost nothing by the change, nay, it has gained a very important trait in its character, that of laying by, cut for months, without injury to the Sugar.

The present year's crop of Tobacco is not yet in market; but I am convinced that I have now by me, cured from it, as fine in size, texture, colour, and fragrance, as any raised in

* This article appeared some time ago in the East Florida Herald; but having been also sent on to us, we publish it among our original communications.

Cuba, of the same age; and I have Segars manufactured from the same, that want but a year's ripening, as it is called, to equal the best quality imported into the United States from Cuba. James F. Clarke's Segars from his last year's experimental crop, now a year old, corroborate this; and which, from their quality and quantity to the land planted, has been principally the stimulant to the considerable quantity of this Tobacco raised this year in and about this city. His crop alone, from a moderate size garden lot, a mere between time amusement, and no capital invested, wonderful to tell, will make him above eighty thousand Segars!

Now, Sir, these facts being the case, of which, I assure you, I am experimentally satisfied, besides having been the larger part of my life a consumer of this article, why should we be so bare of business as we are? Why should such sums go to *Cuba* for the purchase of *their* Segars? The idle lots and small suburb fields of this city, would yield an income sufficient to make us rich, if we but put our shoulders to the wheels, and not violently either. It is but a light and neat exercise to make our Tobacco during summer, and roll our Segars, in a snug corner, in winter. The idle stray time of any man, not bound to a rigorous daily duty, would make, at least, as much by it as would support him decently. In New-York, (I have it from good authority,) many foreigners are maintained, by purchasing at a time, eight pounds, the compliment of a thousand Segars, of Tobacco that go there in bales from *Cuba*; this they manufacture, and live by the profit. How much more so should we who can so easily raise, and roll, or have it rolled at a comparatively small expense?

To communicate the improvements I use in the culture, curing, and manufacture, of this much valued article, is the primary object of this address. I am well aware, that old habits and fixed prejudices are not to be shaken by one pull; and, unfortunately, with some of us, they are insurmountable any how. That inventions and improvements are innovations which require the full force of demonstration, and the aid of time, to work themselves a bed. The *Cuba* Segars, say some in opposition, are already very fine. True; but I want that we, not they, should make them so; and if we can make them only as good by a less slovenly and more certain culture, by a less troublesome and more

safe course of curing, by a better and more early period of manufacture, why should we not do so? Others advance the Cuba process, as sanctioned by age. Agreed:—ages, alas! of error; and want of competition, the soul of improvement. Spain has been for centuries, among the least informed of civilized nations:—Arts, Agriculture, even Commerce, were held in contempt—at least deemed inferior pursuits, and consigned to the vulgar. What else then but stubborn or passive errors are to be expected from the least informed class of the people? But in what country is it that mere mechanics and labourers are inventors or improvers? Tangible evidences are in my possession, offered in tribute, pressed on none.

1st. I have ascertained, that only such intensity and duration of frost as very rarely occurs at this place, is capable of destroying the young plants.

2nd. That it is important to the quantity, and still more so to the quality of the Tobacco, to have the body of the crop, the first and second general cuttings, reaped in during the early part of summer. In a favourable season, on land well manured, and laying moderately low, it will afford two or three more general cuttings, from a third or fourth suit of ratoons. But these are comparatively light in product, and not quite as good in colour, unless showers are constant and pretty heavy; and even then, the season, from a redundancy of heat and moisture, is the most unfavorable for curing. This portion should be kept apart for the filling of Segars; the wrappers selected, form the more early cuttings. Remember, though, that none of these cuttings are general as to time; only the ripe plants are submitted to the knife; consequently, it becomes a series of cutting, and curing from the commencement of this operation to the end of the crop; which, under favourable circumstances, terminates with frosty weather, and might be continued perennially, but that it is better to plant seed anew.

3d. In order to the foregoing advancement of the crop, the seed beds should be planted in December, on high rich soil, under the warm southern cover of a northern hedge or close fence; and frequently watered with a pan, having a finely pierced rose, as the heavy drops from a common rose must destroy, unless in an adhesive loamy soil, a large portion of so diminutive a plant, by breaking loose their early hold in rooting. The practice of burning the surface of

the ground intended for seed beds, by a quantity of dry brush just before planting, is very good; that destroys a large portion of the seeds of grass and weeds that would come up with the tobacco, while the alkali of the ashes reinstates the measure consumed. And I would recommend that the covering earth be taken from eight or ten inches below a common surface, and sifted on to the seeds by a coarse sieve, as preferable to raking.

4th. When the plants are fit to set out, three or four inches high, but a small part of a seed bed are of this size, the rest remaining diminutive; and these few, in starting above the rest, have killed many, and are themselves slender in foliage and roots from having been crowded; then in drawing them up from among the rest, their fibrous roots are, for the most part, torn off; consequently, they remain sickly until the others are reproduced. In a couple of weeks later, a few hundred more are fit to transplant; and so on, from a bed that will finally supply eight thousand plants, about the compliment of an acre. They are in planting out from the first of March, to the first of June. Here is then an unequal, ill-set, and in the major-part, a tardy crop; of which, many die of debility and drought, for May and June are commonly our driest months; and the whole of June is occupied in re-planting, shading and watering plants that come to but little good. Now, instead of this course;—as soon as the plants have a leaf of the size of a thumb-nail, or less, have a piece of good ground prepared for a nursery, manured, tilled, raked, and trampled out into beds, three feet wide; take up the whole of the plants in sods, broken up by a trowel, as you want them; carefully shake them loose from the earth, to preserve their finer roots; and set them out in rows, two or three inches apart each way. They take root immediately at that size and in that season; a smart boy will put out, with a dibble stick, a little larger than his finger, several thousands in a day; and frequent watering will rapidly increase their growth. By this method, a bed of the size and age above-mentioned, will yield, instead of eight, sixteen or eighteen thousand wholesome, sturdy, well-rooted plants, nearly all of a size, and ready to be set in their station by the middle of March or earlier; and the crop is set at once, and takes root directly. But always break up all plants from the ground, that are to be re-planted with a tool; drawing them up is ever a bad practice.

5th. In setting the plants in their stations, a staff-dibble, four feet long, about three inches in diameter below, tapering to a point, and tapering up to a convenient grip; for the hand is much preferable to the hoe, or any other tool, for opening the holes. This is less laborious, more expeditious, and has a decided advantage, by admitting the roots to project their whole length down. In planting with the hoe, the roots, in a bunch, are generally bent on one side, laying horizontally and superficially. There are other good reasons in favour of the dibble, in all transplantings of smaller plants. Should the ground be too dry for its use, make but prints with its point, pour a little water into each, and as soon as that settles down, the dibble will have its desired effect in the driest soil.

6th. In preparing new land, or that which has been long idle, the herbage should be hoed, and raked off to a dung-hill, unless it be full of ripe seed, and then it had better be burnt; break it up thoroughly with a plough or hoe, but a spadde, well handled, is better than either; and harrow or rake it level. Land lately under culture, will require, after clearing it of weeds as before, to be tilled only in the rows where the plants are to stand; a deep furrow made with the plough, of the breadth of a hoe or spade, and raked. The rows, thirty inches apart from centre to centre; the plants, twenty-four inches. The land should be rich, and moderately low. If originally poor, or exhausted by bad management, a case so common in our southern, uncivilized course of culture, a double handful of any well rotted manure, laid under each plant, will pay well the trouble; this is an easy and cheap mode of manuring to be done after tilling. The ground should be kept clean of weeds by very light hoeings; and the more often this is performed, the better, particularly in very wet and very dry spells of weather. Letting in liberally atmospheric air to the roots, by frequently stirring the surface of the ground, has a fine effect on all vegetables; it is as necessary to their roots, as sun to their foliage, and which very wet and very dry weather obstructs, by paralizing the leavening effects of the manure on the soil, and frequently forming of surface, the one a tough, the other a hard crust. Always perform the works of tillage as immediately before planting as convenient.

7th. As soon as each plant has formed the number of leaves desired, from twelve to twenty, according to the

strength of the soil, no matter how diminutive the upper leaves may then be, the bud should be nipped off, and the earth hauled up to the plant, a continued ridge along the rows like corn-beds, or in small detached hills, six or eight inches high. Three or four of the bottom leaves that would come in the way of this bed, or hang low enough to chafe on it, should be previously stripped off; and these, strung by a large needle and thread, and hung up in the drying room. The number of leaves mentioned above, are independent of these.

8th. In curing the Tobacco, much importance is very erroneously attached to its being *well sweated*; that is, after a parcel is quite dry, before it is laid away, it is dampened by various mixtures, crowded into a pile, and covered with blankets to bring on a fermenting heat; and left in this situation three days. This, I know, is sanctioned by a long course of practice; but not the more immaculate on that account. Sweating is limited to three days duration, by even writers on the subject. Now this is but another name for fermentation, nature's first stage of putrefaction; and which is altogether dependent on the meeting of heat, moisture and air. To attempt, then, to reduce to a standard of time, the effects of an unqualified meeting, progress, and duration, of three agents so precarious, so mutable, is at once evidence of a want of information. We had better leave it alone—it always brings with it labour, risk, injury, to the colour, and to the fragrance; and not one real good can be set up in its justification. It may be very well to sweat northern Tobacco, intended principally for chewing, and which commands a better market in Europe, where the idea of strength is associated with the dark colour this sweating gives it; and it is itself comparatively a thick, tough leaf, capable of bearing some fermentation. Not so with this kind of Tobacco, valued for its thin delicate texture, lively, yellowish brown colour, fragrance in burning, and the whiteness of its ashes used as a dentrifice.

When we see a batch of Tobacco come from this sweating process with the desired colour, it is highly praised, and the conclusion is this, that it has taken a great sweating; whereas, the fact is, that it has not been sweated at all, or so very little, as not to have perceptibly changed it—that is, though the Tobacco felt a little warm, it fortunately escaped the heat intended; never measured by a thermometer, or other

guage, than the feeling of the hand, a miserable criterion; it did not, from want of bulk, or owing to the dry state of the air, the coolness of the weather, &c. reach the fermenting point, and the Tobacco escaped with its native qualities unimpaired. When the fermentation is effected, the colour is injured, the fragrance spoiled; it no longer yields white ashes, and wont keep fire a moment without sucking. This is then attributed to any other cause but the real one—even superstition is not without its influence. It is sometimes turned over to the snuff manufacture; but, too often, it is worked into Segars, mixed with a better batch, scented, and palmed on those who are not judges. To these circumstances of accident and design, arises, principally, the great difference in quality, all connoisseurs must have met with, under the name of Havana Segars.

My method is this:—when the plant is at a certain stage of maturity, (which must be shown in the field,) it is cut down, and immediately hung up in a tight and dry room, shut up from light and air, and left for some weeks to dry. If the drying is very gradual, the leaves change from their native green, to a clear light yellow, and from that to the fine yellowish brown; but when the drying is precipitated by light, a dry, cold, or heated atmosphere, it passes from the green to a dull greenish brown, which age will measurably improve; but it never looks as well as the other—the other should be selected for wrappers. When the stalk of the leaf is thoroughly dry, the windows are thrown open during a dewy night; this will dampen the leaves, so as that they can be handled without breaking. In stripping the leaves from the parent stalk, beat each small handful several times against the other hand, holding the bunch of leaves by one end, then by the other, to shake out the sand from among them, and lay away those handfuls in a pile as broad as the length of two leaves, with their butt ends outwards on both sides, that these may dry thoroughly, which are, at this part of the work, still full of moisture. Keep a board or two with weights on the top of the pile in order to press it, and keep off the air from the body of the leaf. Here it may stand in store, or be packed away at pleasure, as soon as the butt ends of the leaves are quite dry. I use no sprinkling, scenting, brushing, or sweating.

It is customary to let the Tobacco lay one year, at least after being cured, to get mellow;—that is, to loose by age

a degree of asperity to the taste attending on new Tobacco ; this is called the last ripening. I prefer having the Segars made as early after curing the Tobacco as convenient, so as to let this ripening take place in the Segars themselves, boxed up tight, to that of making them after the ripening. Opening and moistening the Tobacco then, to make it pliable, the long handling and exposure to the air in that dampened state during the manufacture, and then drying the Segars for boxing, necessarily gives room, and cause, to the escape of much of its strength and fragrance.

9th. Among the very best Segars, we now and then meet a bad one. This happens mostly from leaves, that, either from an unfavourable situation in the drying house, in damp weather, or, perhaps, the unhealthy state of a plant, will become mouldy in the drying. These ought to be carefully kept apart, and turned over to the making of snuff; for, wherever they occur, either in filling or wrapping, they spoil the Segar.

Snuff ought not to be neglected; it is a profitable concomitant on the manufacture of Segars. The shreds, injured leaves, leaf stalks, thrown aside from the one, work well into the other; and the labour of pounding or grinding is but trivial to its profit.

I am of opinion, that one acre of good land, well tended in culture, suckering, worming, or curing, will keep an active hand busy all the season; but this will make a valuable return.

Three kind of worms attack this crop. First, the cut-worm, a dirty looking fellow, who lies concealed all day in the ground, and cuts off the young plants just above the surface, in the night. This worm is the least destructive of the force, and can be kept under, by keeping the land clean of dry ligneous weeds. All such as form wooded stalks, should be destroyed in a young succulent state, as the eggs of a butterfly which produce these worms, are deposited on the bark of such weeds, and hatched from the dried stalks. By the bye, the same industry is excellent for exterminating all kinds of annual grasses and weeds, and greatly diminish all those that are perennial. The second is the leaf-worm; green, large, and ravenous :—he can eat up nearly a whole full grown leaf in a day; but yet less injurious than the third—the bud-worm;—a striped, slender animal, that cuts through bunches of the young leaves just formed; and these

small holes grow with the leaves large enough to admit the fist through them. These last, if not attended to with much care, will destroy all the seed of the plants left for seed. The earliest plants, and latest ratoons, are the best to ensure seed from their ravages. These three kind of worms follow in succession; their number and duration depend greatly on the state of the weather; but they can always be kept down with proper care. A good flock of turkeys are of great value in a Tobacco crop, and they thrive finely in it.

10th. The opinion, that we must import the seed of this Tobacco from Cuba every year, is wrong. The seeds of some annual plants, in all countries, had better be changed in longer or shorter periods, as experience fairly points out; and others degenerate not so much from the nature of the climate, as from mismanagement in their culture. I have paid close attention to this point during a successive culture of the same seed of this Tobacco for the last four seasons, and cannot perceive the smallest degeneracy in the plant or its product.

GEORGE J. F. CLARKE.

N. B. In the letter enclosing the above, the gentleman observes, that if the Segars should sell at eight or nine dollars, per 1,000, even, I cannot imagine any culture in which a whole force can be so profitably employed. From my experience, and from what I have seen made here last year, good land yields, with tolerable certainty, 800 lbs. per acre of Tobacco—and 800 lbs. will make, at least, 80 boxes of 1,000 Segars, equal to \$720 per acre, at even \$9 per box; when it is well known, that Spanish Segars are worth from ten to twenty dollars per box made of the same kind of Tobacco.

St. Augustine, January 20, 1828.

P. S. A Reverend Gentleman who has called on me since writing the above, informs me, that, while in St. Augustine, he stopped with a widow lady, who had planted above three quarters of an acre with this Tobacco; and that when made into Segars, it would nett her \$1,000, as the snuff would more than pay the expenses, which is \$3 per 1,000 Segars, including boxes.

Note. This will prove another source of revenue to us, and we hope to see the cultivation of this species of Tobacco, extensively entered into. A few years since, some seeds of this species of Tobacco was presented to the Agricultural Society of South-Carolina. One of the members sowed a small quantity in his garden, and we had the pleasure of seeing the

leaves after being cured. We understood that it succeeded remarkably well; but, as we hope to get a statement of it from the gentleman himself, we will make no farther remarks for the present.—*Ed. So. Agriculturist.*

ART. V.—*Remarks on the Vine, Silk-Worm, and Sugar-Cane; by a Correspondent.*

“Waynesboro’, Georgia, April 11, 1828.

Dear Sir,—The “Southern Agriculturist,” has, already, I am happy to inform you, acquired some popularity in this section of country, and bids fair, when the information contained in it, is generally diffused, to improve the state of Agriculture, (which is now so miserably bad,) if not to open to our views new staples to take the place of Cotton, the price of which is now so low, that the best or most judicious husbandman cannot make legal interest on his capital invested. The Vine, Silk-Worm, and Sugar-Cane, are spoken of by some of our Planters, and indeed, some small experiments are now making with those articles. I have, myself, a few of the Silk-Worms that are doing well. I have planted several acres in Mulberry trees, and intend to sow this year, twenty acres in seed. I have also something more than five acres of Sugar-Cane, of the Green and Ribbon sorts, planted in five varieties of soils, with a view to the best test possible in our season. The first of it that sprouted has been five times cut down by frost, and it is now again putting out its green blades, from the heart of the first sprouts. Not a sprout that I have examined has been killed to the root. The Sugar-Cane, in its infancy, is far more hardy than Corn or Cotton:—as a proof of this fact, I will mention, that fully one-fourth of my Corn is, at this time, dead to the roots, from the late frosts; and any Cotton that was up, has been entirely destroyed. The last season was certainly the most unpropitious for Sugar-Cane that I have ever known, and the little that I had, (and it was of the green sort,) bore the vicissitudes of the season better than Corn or Cotton, or any other vegetables on my plantation. I am so entirely satisfied that the Sugar-Cane will do admirably well here, (say latitude 33. 10.,) that I flatter

myself, I shall never feel the necessity of planting another Cotton crop ; a crop that I detest, because of its admitting of no rest or time, for the improvement of a plantation. When my experiments get to maturity, (and I have others in progress than those I have mentioned,) I may, perhaps, communicate to you the results.

I am, respectfully, dear Sir, your most obedient servant,

AGRICOLA.

Note. We rejoice to find, that the good people of Georgia, are seriously disposed to abandon, in some measure, if not altogether, the culture of Cotton, which has now become an unprofitable one, and are turning their attention seriously to the introduction of new crops; such as the Sugar-Cane, the Grape Vine, the Olive, and the Silk-Worm. This we learn from several letters to us, and also from statements which we have seen in different papers.

Agricola appears to have entered into it with spirit, and we most sincerely wish him success. We hope his enterprise will meet with a suitable reward, and that his example will soon be followed by his neighbours, if they have not already done so. He has promised to furnish us with the results of his experiments, which we request may be done, even if unsuccessful, as they will then serve as a caution to others. We, however, anticipate no such result.

In Alabama, the same spirit of enterprise has gone forth. But what are the Planters of North and South-Carolina doing? will they leave all to be attempted by others, and be mere lookers-on—or have they determined that they will persevere in the cultivation of Cotton at any price, and quietly fold their arms, and wish for better times? We hope not. We hope that our Planters will arouse themselves and enter with spirit into the contest, and endeavour to ascertain, whether there be not many valuable articles which may be successfully introduced into our States, which will afford us a better remuneration for our labour than Cotton. We are confident there are several, and that is only necessary that some enterprising individual should lead the way, to have them brought into general cultivation.—*Ed. So. Agriculturist.*

ART. VI.—*Queries on the Culture of Rice; by WILLIAM WASHINGTON, with Answers by A. WATSON.*

(Continued from page 223.)

Dear Sir,—In reply to yours of the 18th inst. I will endeavour to answer all the Questions, as far as my experience goes.

1st. What preparation do you give your land before you begin to plant?

Ans. My great object is to plough up my land as early as it is possible in the fall; harrow it well in the spring, and clear out the drains properly.

2nd. When do you begin to plant?

Ans. I generally begin to plant from the 12th to 15th March.

3d. Do you select your seed, and how do you know the best seed? Do you prefer your seed from the North or South, and how often do you change your seed?

Ans. I select my seed as clear of volunteers as possible, and from a clay soil, though I have been so far fortunate in every year to plant a portion of new land, from which I take my seed. I approve of a change, but cannot say whether it would make any material difference in the product, by getting seed from the north of this. I plant a portion of marsh land subject to salts, and a portion of clay; and I plant the seed of the former in the latter—and *vice versa*.

4th. How many rows to the task or quarter of an acre? How many bushels of seed to the acre?

Ans. I plant, distant fifteen inches from centre to centre, which gives one hundred and twenty rows to the half acre. I plant, on the marsh-land, three bushels;—the cause of this is the numerous birds which infest those lands;—on my clay land and early planting, two bushels, and as the season advances, when we are to calculate, that, from the increasing warmth of the sun, every grain almost may germinate. I plant less than two bushels to the acre.

5th. Do you scatter in the trenches, or, as it is technically called, string plant?

Ans. I prefer scattering in the trench. It is more difficult to attend; but the Rice will be more productive than the stringing of it.

6th. Do you point-flow, and if so, assign the reasons?

Ans. On the marsh lands, where it is very grassy, I point-flow heavily, and soak it well; that is, I have flowed from nine to twelve days, and soaked as long. The object is, to kill the grass on my clay lands. Unless worms infest, I prefer not to point, and when I do point on those lands, it is never longer than from two to three days.

7th and 8th. How many times do you hoe before you put on the water? How long do you keep on the water?

Ans. I never wish to put on the water till I have hoed twice; I mean the long water, or the fifteen days water, and circumstances, such as being pushed with grass, I have kept it as long as thirty days.

9th. If in grass, would you put on the water or not? What do you call a good crop to the acre or to the hand?

Ans. I would not flow till I had hoed; but if hard pushed, I would put on the water, and pick it through in that state.

10th. Have you ever ploughed your land whilst the crop was growing, or do you object to it, and why?

Ans. I have ploughed when the crop was growing, but from the injury which the mules do, I disapprove of the plan.

11th. Do you keep your land dry all the winter, or do you flow it?

Ans. As I plough in, all my stubble, I prefer keeping it under water: it rots the stubble, and the land evidently derives an advantage from the water.

12th. Have you ever used salt or brackish water, and what has been the result? Have you ever used lime on your land, and how do you apply it?

Ans. I have several times, to save my crop, used brackish water, though I run a risk of the next year; but, as in the winter, our river is generally fresh, and calculate, by deep ploughing of it, exposing to the frost, and occasionally flowing of it, I have been generally able to reclaim the land for the succeeding year. I have used lime, and highly approve of it, if it were not for the expense and extra trouble. I one year used it on several salt spots on the marsh, where no Rice ever grew before, and that year I saw no difference in the quality of it, to the other parts of the field. After the land has been well harrowed and ready for the grain, and before trenching, I scatter on the surface, between eighty and ninety hushels per acre.

13th. How do you know the best time to cut Rice, and what is the task of a labourer in harvest?

Ans. I prefer cutting Rice before it is thoroughly ripe; say, with a few green grain at the lower part of the stem, it saves waste, and pounds much better; my hands cut me an acre and more;—say, with ease, they finish sometimes by four o'clock in the afternoon. I give no task in bringing up; my light hands I put to tying, and my able ones to carry to the flats. My plantation that I manage, is so conveniently fixed with canals and the river, I flat up all my Rice;—I work all in gang at that time;—I have a select number in my barn yard to unload;—I stack away as soon as my flats arrives;—I work none at night;—my field hands and barn-yard hands are distinct;—the former never goes to unload, and the latter do not come in the field to assist;—by this arrangement, my work goes on easily. I use no specific mode in pounding;—I am particular in keeping the stone sharp, and the mill as free of dust as possible;—before I pound, I prefer my rough Rice to be kept for some time in a large bulk;—I think it toughens the grain, and it gives a better sample than otherwise. In answer to the ninth query, I think sixty bushels a good crop. I have generally averaged that quantity;—say, fifteen barrels, with my provisions to the hand, which I have done.

15th. Have you ever cultivated Guinea Corn as a provision crop, and if so, what do you think of it? Do you ever judge by the roots of the health of your Rice?

Ans. I have planted Guinea Corn; my negroes disapproved of it. I gave it out to them on Sundays; I do not like it.

16th. Have you ever practised a succession or rotation of crops, and if so, which do you most approve of?

Ans. I would think a change in the land, that is, from one grain to another, highly beneficial; though, from my situation, I have never practised it.

I will, now, in a few words, sum up the whole of the art, which, from my experience, is requisite;—fallow your land well in the winter; be industrious; attend strictly to the hoeing; pick it clean, and you may always expect a fair crop.

With the hope that the above may be satisfactory, I am, respectfully, your obedient servant,

A. WATSON.

PART II.**SELECTIONS.****ART. I.—Management of Milk and Cream.—Making and Preservation of Butter.**

[FROM THE COMPLETE GRAZIER.]

The quality of cows' milk greatly depends on the nature of their food, which likewise materially affects the quantity they will yield; though this last circumstance is, in some measure, regulated by the manner of milking them. It will, therefore, be necessary to be very cautious in choosing milkers; because, if a cow be roughly handled, it is not only painful to her, but will also cause her to withhold her milk, which is often attended with serious consequences; whereas, if it be gently drawn, she will yield that salutary fluid abundantly. As it sometimes happens that cows are *tickish*, they should on such occasions, by no means be harshly or severely treated; and if the udder be hard and painful, it ought to be fomented tenderly with luke-warm water, and stroaked gently, by which simple expedient, she will be brought into good temper, and yield her milk with pleasure and freedom.

In this country, it is the general practice to milk cows twice in the course of twenty-four hours, throughout the year; but, in summer, the proper periods are at least three every day, and at intervals as nearly equidistant as possible, *viz.* in the morning, at noon, and a little before the approach of night. For it is a fact, confirmed by the experience of those who have tried it, that cows, when milked thrice in a day, will yield more milk in point of quantity, and of as good, if not better quality, than they will under the common mode of milking only on the morning and evening.

After the milk is drawn from the cow, it should be carefully strained through a linen cloth, or hair sieve, (Dr. Anderson prefers a sieve made of silver wire, on account of its superior wholesomeness,) into the cream-dishes, which should

never exceed three inches in depth, though they may be made so wide as to contain any quantity required, and which ought to be perfectly clean, sweet, and cool. If any ill flavour is apprehended from the cows having eaten turnips, &c. the addition of one-eighth part of boiling water to the milk, before it is poured into the dishes, will effectually remove it; and, when filled, the dishes ought to be set upon shelves, or dressers, there to continue till the cream is removed. This should be steadily done by means of a skimming-dish, if possible, without spilling any upon the floor, because it will speedily taint the air of the room, and the cream poured into a vessel, till enough be obtained for churning.

With regard to the process of making butter, we would observe, from Dr. Anderson's valuable Essay, already referred to,—first, The milk first drawn from a cow is always thinner, and inferior in quality, to that afterwards obtained; and this richness increases progressively, to the very last drop that can be drawn from the udder. Second,—the portion of cream rising first to the surface, is richer in point of quality, and greater in quantity, than that which rises in the second equal space of time, and so of the rest; the cream continually decreasing, and growing worse than the preceding. Third,—thick milk produces a smaller proportion of cream than that which is thinner, though the cream of the former is of a richer quality. If thick milk, therefore, be diluted with water, it will afford more cream than it would have yielded in its pure state, though its quality will, at the same time, be inferior. Fourth,—Milk carried about in pails, or other vessels, agitated, and partly cooled, before it be poured into the milk-pans, never throws up such good and plentiful cream as if it had been put into proper vessels immediately after it came from the cow.

From these fundamental facts, the Doctor observes many very important corollaries, serving to direct the practice, may be deduced, among which we only notice the following:—

1st. It is evidently of much importance, that the cows should be always milked as near the dairy as possible, to prevent the necessity of carrying and cooling the milk before it be put into the dishes; and as cows are much hurt by far driving, it must be a great advantage in a dairy-farm to have the principal grass fields as near the dairy or home-

stead as possible. In this point of view, also, the practice of feeding cows in the house, rather than turning them out to pasture in the field, must appear to be obviously beneficial.

2nd. The practice of putting the milk of all the cows of a large dairy into one vessel, as it is milked, there to remain till the whole milking be finished, before any part is put into the milk-pans, seems to be highly injudicious, not only on account of the loss sustained by the agitation and cooling; but also, and more especially, because it prevents the owner of the dairy from distinguishing the good from the bad cow's milk, so as to enlighten his judgment respecting the profit that he may derive from each. Without this precaution, he may have the whole of his dairy produce greatly debased by the milk of one bad cow, for years together, without being able to discover it. A better practice, therefore, would be, to have the milk drawn from each cow separately, put into the creaming-pans as soon as milked, without being ever mixed with any other; and if these pans were all made of such a size as to be able to contain the whole of one cow's milk, each in a separate pan, the careful *dai** would thus be able to remark, without any trouble, the quantity of milk afforded by each cow every day, as well as the peculiar qualities of the cow's milk. And if the same cow's milk were always to be placed on the same part of the shelf, having the cow's name written beneath, there never would be the smallest difficulty in ascertaining which of the cows it would be the owner's interest to dispose of, and which he ought to keep and breed from.

3d. If it be intended to make butter of a *very fine quality*, it will be advisable, not only to reject entirely the milk of all those cows which yield cream of a bad quality, but also, in every case, to keep the milk that is first drawn from the cow, at each milking, entirely separate from that which is got last; as it is obvious, if this be not done, the quality of the butter must be greatly debased, without much augmenting its quantity. It is also obvious, that the quality of the butter will be improved, in proportion to the smallness of the quantity of the last-drawn milk which is used, as it increases in richness to the very last drop that can be drawn from the udder at that time; so that those who wish to be

* A provincial word, denoting the principal person who has the chief concern in a dairy.

singularly nice, will do well to keep for their best butter, a *very small* proportion only of the last-drawn milk.

It is a matter of some importance, to determine in what way the inferior milk, which is thus set apart when *fine* butter is wanted, can be employed with the greatest profit. In the Highlands of Scotland, the people have adopted a practice, merely from considerations of convenience and economy, without thinking of the improvement of the butter, which answers many good purposes. As the rearing of calves is there a principal object with the farmer, every cow is allowed to suckle her calf with a portion of her milk, the remainder only being employed for the purposes of the dairy. To give the calf the proportion allotted to it regularly, it is separated from the cow, and put into a small enclosure made for the express purpose, on every farm, of confining all the calves belonging to that farm. At regular times the cows are brought to the door of this enclosure, where the young ones fail not to meet them. Each calf is then separately led out, and runs directly to its mother, where it is allowed to suck till the dairy-maid judges that it has had enough; it is then separated, the legs of the mother having been previously shackled, by a very simple contrivance, to oblige her to stand still, and the dairy-maid milks off what was left by the calf. They proceed in this manner till the whole of the cows are milked, and thus do they obtain a small quantity of milk, it is true, but that of an exceedingly rich quality; which, in the hands of such as know how to manage it, is manufactured into the richest marrowy butter that can be any where met with. This richness of the Highland butter has been long remarked, and has been universally ascribed to the old grass that the cows feed upon in those remote glens; but it is in fact chiefly to be attributed to the practice here described, which has long prevailed in those districts.

Other secondary uses might be found for the milk of inferior quality. It might be converted into butter of a secondary quality; or might be sold sweet, where the situation of the farm is within reach of a town; or it might be converted into cheeses, which, by being made of sweet milk, if made with care and skill, might be of a fine quality.

With respect to the operation of churning, we would particularly remark, that it ought to be regularly continued, till the butter is *come*, or formed; nor, unless from absolute

and irremediable necessity, should any assistant be allowed to churn; because, if the motion be, in summer, too quick, the butter will, in consequence, ferment, and become ill-tasted; and, in winter, it will *go back*.* The business of churning may, however, be much facilitated, by immersing the pump-churn, (if such be employed,) about one foot deep into a vessel of cold water, and continuing it there till the butter is made. Where other churns are made use of, the addition of one or two table-spoons-full of distilled vinegar, after the cream has been considerably agitated, will, it is said, produce butter in the course of an hour. After the butter is formed, the usual practice is to wash it in several waters till all the milk is removed; but Dr. Anderson advises the milk to be forced out of the cavities of the butter, by means of a flat, wooden ladle, furnished with a short handle, at the same time agitating the butter as little as possible, lest it become tough and gluey. The beating of butter up by the hand is an indelicate practice, particularly if it be constitutionally warm; and, as it is hurtful to the quality of the butter to pour cold water on it during this operation, the butter, if too soft to receive the impression of the mould, may be put into small vessels, and these be permitted to float in a trough of cold water beneath the table, *without wetting the butter*, which will soon become sufficiently firm. Or, when the butter is first made, after as much of the milk has been got out as possible, it may be thinly spread on a marble slab, and the remaining moisture be absorbed, by patting it with clean dry towels.

Butter, thus freed from the remaining milk, is called *fresh butter*; and, when sold on the spot, or in neighbouring markets, it is formed into rolls weighing half a pound or a pound, or into lumps of twenty-four ounces, termed *dishes* in Somersetshire and some other parts of England. But where it is intended to be kept, or sent to a distance, it is salted by the process immediately to be described, and is put into casks, which contain, respectively, 28, 56, or 84 lbs. and usually denominated *half firkins*, *firkins*, and *tubs*. Previously to putting the butter into these vessels, especial care must be taken that they be well seasoned by frequent washing and exposure to the air for two or three weeks. As

* Soap, mischievously slipt into a churn, will prevent the cream from making butter.

it is very difficult to season new firkins, it will always be preferable to employ those which have been already used, where these can be returned to the dairy-owner. The most speedy method of seasoning firkins, is, by the use of unslaked lime, or a large quantity of salt and water well boiled; with which they should be repeatedly scrubbed, and afterwards thrown into cold water, to remain there three or four days till wanted. They should then be scrubbed as before, and well rinsed with cold water; and, before the butter is put in, *every part* of the inside of the firkin must be well rubbed with salt.

The ordinary process of salting butter, after the milk has been forced out of it in the manner already described, is, to work into the butter one or two ounces of salt, so thoroughly, that it shall be equally incorporated with the mass. The salt employed for this purpose, should be of the purest kind, well dried and broken down, but not completely pulverized. Dr. Anderson, however, recommends the following preparation, which he has experienced to be much superior, as it not only prevents the butter from becoming in any degree tainted or rancid, but also its look or appearance, while, (what is of more importance,) it imparts a sweeter and richer taste than could have been effected by the use of common salt only. Let two parts of the best common salt, sugar and saltpetre, of each one part, be completely blended together by beating, and add one ounce of this mixture to every pound of butter, incorporate it thoroughly in the mass, and close it up for use. It will be necessary, however, to keep butter, thus prepared, for two or three weeks before it is used, otherwise it will not taste well; but, if properly cured according to the hints above given, Dr. Anderson states, that it will continue so perfectly sweet for three years, as not to be distinguished from newly made and salted butter. The best butter is that made during the summer; but, by adding a certain portion (which experience only can determine) of the juice expressed from the pulp of carrots to the cream previously to churning; winter-made butter will acquire the appearance and flavour of butter that has been churned during the prime part of the summer season.

When butter is to be exposed to the heat of a warm climate, it should be purified by melting, before it be salted and packed up. For this purpose, Dr. Auderson directs it to be put into a proper vessel, and this into another contain-

ing water, which must be gradually heated until the butter be thoroughly melted. In this state it must continue for some time, when the impure parts will subside, and leave at the top a perfectly pure and transparent oil; which, on cooling, will become opaque, and assume a colour nearly resembling that of the original butter, except that it will be a little paler and of a firmer consistency. This refined butter is then to be separated from the dregs, salted, and put up in the same way as the other butter; it will continue much longer sweet in hot climates, as it retains the salt better. Dr. Anderson further adds, that butter may be preserved sweet without salt, by adding a certain quantity of fine honey, in the proportion of one ounce of the latter, to a pound of butter, and mixing them thoroughly, so that they may be perfectly incorporated. A mixture of this sort has a sweet pleasant taste, and will keep for years without becoming rancid.

In different counties there are several variations in the making of this primary article of domestic consumption; but as the hints and cautions already stated, are, we trust, sufficiently calculated for general purposes, it would unnecessarily swell this work to state them.

ART. II.—*Pope's Hand-Threshing Machine.*

[FROM THE AMERICAN-FARMER.]

"Brighton, (Mass.) December 26, 1827.

J. S. SKINNER, Esq.—Dear Sir,—I lately had an opportunity of viewing an operation of *threshing Rice with Pope's improved machine*—the exhibition of which was fortuitous; but the result may be interesting to our Southern brethren, who cultivate that important staple; and being desirous to contribute my feeble efforts towards promoting the prosperity of our whole country, the following statement and remarks are submitted to your disposal, to pass for what they may be worth.

About a year since, I was requested by Mr. Dabney, the United States' Consul for the *Azores*, to procure one of *Pope's hand-threshing machines* for a friend, who cultivated wheat extensively in the island of Terceira; but as my dis-

creation was relied on, I delayed a compliance till within a few weeks, when one of an improved construction was presented. With its performance on *rye*, I was fully satisfied, the straw being completely cleared of grain with astonishing expedition, considering the small size of the machine, and that the moving power was only one man. There being no wheat within a reasonable distance of Boston, and the vessel that was to take out the machine on the point of sailing, I told Mr. Pope, that if it would perform well on *rice*, of which he had a small parcel, procured from the south, for the purpose of testing his machine, I would dispense with its action on wheat; feeling confident from the effect on *rye*, that all reasonable expectations would be realized.

With the labour of one man to turn, and another to feed, this machine threshed *three sheaves*, thirty inches in length, in something less than a minute, affording a *peck* of clean rice. It appeared that the *feeder* was not more than half supplied with *material*, and that the same power would have acted on double the quantity within the time. I must confess that I was not prepared to witness so complete an operation. Considering the form of a *panicle of rice*, so essentially different from an *ear of wheat* or *rye*, I was apprehensive that a portion of the *peduncles* or *foot stalks*, would break off, and escape the *beaters*, or pass through attached singly to the grain; but this was not the case. Indeed it does not appear possible to thresh rice more completely with *flails*, in the usual way, than was demonstrated in this instance; and if we may judge from the result of an experiment so limited, I think it may be safely estimated that such a machine, with the labour of three men and a boy, will thresh from 150 to 200 bushels of rice in a day; and, with the increased velocity which may be attained by the application of *animal* power, an ordinary *mule* for instance, double that quantity may be turned out.

The numerous *threshing machines*, and *specious* models of them, that were exhibited to the *Trustees of the Massachusetts Society, for promoting Agriculture*, during a long period that I had the honour of a seat at that board, as *Trustee and Vice-President* of the institution, which proved either complete failures, or, after ephemeral exhibitions and cessation of novelty, "rest from their labours," with attempts at *perpetual motion* and other *abortions*, produced by the *fecundity* of inventive genius in our country; the models of

which assist to load the shelves of the *Patent office*, induced a degree of caution bordering on scepticism. Certainly no threshing machines have come within my view, that inspired any confidence in their general utility, except *Pope's*—and I never felt a full conviction that even *that* was capable of producing such important results as those to which I have alluded. This machine promises great durability, occupies not more room, and is as portable as a common *fanning machine*;—is *simple*, and so *cheap*, as to be at the command of *middle farmers*;—*cardinal points*, which mechanicians in general, are too apt to overlook. For being encouraged by a *venial cupidity* in the public, they endeavour to get *too much of a good thing*, whereby their machines are rendered bulky, complicated, and expensive.

It were superfluous to expatiate on the importance of eliciting the invention of simple and efficient *labour-saving* machines, in various departments of husbandry, as well as in the arts; but I cannot withhold the expression of my firm conviction, derived in part from facts recently come to my knowledge, that many valuable inventions and discoveries are kept from the light, in consequence of the feeble protection afforded that species of property, or the *impunity* with which it can be pirated under the *patent laws* now in force. For it is unquestionably true, that great *loss or ruin* is inevitable to the man, who, *with a verdict in his favour*, prosecutes for an infringement of his *patent!*—and, like a *wreck, stranded on a barbarous coast*, the greater the value of his invention or discovery, the greater the number and *potency* of *depredators* will he have to contend with. Moreover, it is believed, that to the same cause may be attributed the imperfection of numerous machines that have been *palmed* upon the public. The inventor or machinician, has little inducement for persevering to bring his machine to the highest state of improvement of which its *principles* may be susceptible; having no confidence in the *laws*, but rather viewing them as a *trap*, commences *trapper* himself, and as soon as he can render it sufficiently *plausible* to enable him to sell *patent rights*, grasps at the *modicum* offered by *jobbers*; the construction of the machine is assigned to *bunglers*, and the utility it might possess soon expires.

Upon what moral principle, or maxims of justice the distinction is founded, or why it is, that property created by astonishing efforts of human intellect, united to years of

constant toil, when exhibited in the form of *inventions* or *discoveries*, that, in some instance, seems to approximate *matter* almost to *mind*, and prove of incalculable benefit to society; should, by the same community, be held so little sacred, and receive from their lawgivers merely *nominal* protection, while property, acquired by *professional* displays of intellect, and every other pursuit, is most rigidly secured, we shall leave to *casuists* and *societies* for the *improvement of morals*, to discover. But such is the fact, that the right to inventions, or what is termed *patent property*, in relation to any other kind, may be correctly compared to a *weak and sickly tree*. *Hosts of insects* seize and gorge upon its *trunk, fruit, and foliage*, when not a soul of them, except a few *outcasts* of their society, dare approach one of the same species that is in sound health and vigour.

It is said to be the boast of our country, that her laws are framed to dispense “equal and exact justice to all.” We may still hope, that the *grand inquest of the nation*, will no longer suffer that *divine attribute* to be defaced by *statutes* that carry **PROTECTION** in their front, but **DESTRUCTION** to the *oppressed* who seek for redress under them.

With very cordial esteem, I remain truly yours,

SAMUEL WYLLYS POMEROY.

ART. III.—*Remarks on the Choice of Seed Potatoes, and on the General Principles of Choosing Seed, and Preserving Fruits; by a DENBIGHSHIRE GARDENER.*

[FROM THE GARDENER'S MAGAZINE.]

Sir,— The favourable reception experienced by my letter, inserted in Number 6, of your highly useful publication,* induces me to hope, that the following observations, in continuation, will not be uninteresting to you, and your readers.

Preferring unripe potatoes for seed, is not new in practice—it has for ages prevailed; for where do the farmers of the rich soils and warm countries send for their seed-wheat and seed-potatoes? To the cold, hilly countries, where

* See also, “Southern Agriculturist,” No. V.

they do not, one season in three, thoroughly and perfectly ripen their seed. In Denbighshire, we call the hilly or unripe potatoes, the *wet* potatoes; and those from the rich soils and warm situations, where they ripen perfectly, we call the *dry* potatoes, although exactly the same variety; the wet, or unripe, are reckoned best for seed, and the dry for food. The potatoe tuber is a perfect organised system, in which the circulation regularly proceeds, and if suffered to ripen, will then tend to decay; but, if separated before ripe, from the stem or stalk, which furnishes it with blood or fruit-sap descending from the leaves, the circulation of the blood-sap is suddenly arrested. The ripe potatoe, having performed all its operations, becomes more inert; but the circulation of the sap in the unripe tuber having been stopped, it starts more readily, and with greater vigour when planted; —the one seems to die, worn out with age—the other seems accidentally to have fallen asleep, and when awoke, possesses an unspent vigour and energy. This is the case not only with the potatoe, but also with the apple, pear, and other fruits, whose life, if I may so express it, you wish to prolong or extend beyond the time naturally allotted to it; you take them off the tree long before they are ripe, and experience has taught us, that they will keep much longer, and eat much fresher, than those suffered to grow ripe upon the tree; the same is the case with the potatoes taken up before ripe. Placing the potatoes upon the gravel, or any dry, but not grass walk, in the sun, has the effect of stopping the circulation in the tuber, in which nature has provided resources to carry it on to an extraordinary degree, unless so stopped.

If you will examine the potatoe stem or plant, when the tubers are beginning to be formed, you will find that the potatoes are placed upon the runners, pushed or issuing out from the plant or stem *above* the set; the functions of the set are to push out the roots to gather food from the soil, to supply the plant and leaves with that food; and from the leaves, the blood or fruit-sap flows down, to form the runners and new potatoes; and the more you earth up the plant or stem, the more runners are formed higher up on the stem, and the more potatoes are produced.

Permit me to add, that all the best farmers in the warm and rich soils and warm climates, find their account in changing their seed-wheat; for that they send to the poor

soils and cold climates, often to the poor cold chalk-hills in Oxfordshire and Gloucestershire; and what is the sample of the wheat they obtain from thence?—notoriously the most shrivelled, from being cut before ripe. If farmers on rich soils would reap their wheat, preserved for seed, before ripe, they need not be at the expense, trouble, and inconvenience of sending 100 miles for their seed-wheat, which is often the case.

The present season of the year being favourable to you and your readers putting my observations in this and my former letter to the test, viz. earthing up the potatoes, causing them to be later; earthing them up, after taking away a few of the earliest, causing them to throw out new runners, and produce more potatoes; the top or eye-cuts producing potatoes a fortnight earlier than the bottoms of the same tubers, &c.; I trust that I shall see the results of their observations in a future number of your interesting publication.

Writing for plain, unlearned men like myself, I deem it unnecessary to hunt in dictionaries, and other such learned books, for scientific or philosophical terms to garnish my tale, the want of which, I trust, will not render it less useful, or less acceptable to you and your readers.

I am, Sir, &c.

A DENBIGHSHIRE GARDENER.

March 29, 1827.

PART III.**MISCELLANEOUS AGRICULTURAL ITEMS:****DOMESTIC.**

Proceedings of the Farmer's Society, of Barnwell District, communicated for publication in the "Southern Agriculturist."

EXTRACTS FROM THE MINUTES.

The following Premiums were awarded by the Farmers' Society of Barnwell District, at the meeting in January last.

1st. To O. D. Allen, for the best experiment on five acres of upland, with Indian Corn; each acre averaging twenty-two bushels,	- - \$25 00
2nd. To J. G. W. Duncan, for the best experiment on five acres of pond land, with Indian Corn; each acre averaging more than thirty-two bushels,	- 25 00
3d. To Dr. J. T. Bellinger, for the best experiment on one acre of Potatoe-Slips; producing one hundred and twenty-seven heaped bushels,	- 10 00
4th and 5th. To Mrs. Colonel Rice, for the best specimens of Homespun, filled with wool, and Home-spun, all cotton,	- - - 10 00

In addition to the above premiums, the Society presented five dollars to Mrs. Sarah Hudson, for exhibiting a neat and handsome Counterpane; which, in the opinion of the members, deserved a reward, not only because the spinning and weaving were well executed, but also, because the various colours with which it was dyed, had been produced from the woods of the District, and had been manufactured at home.

The Society elected John H. Powell, Esq. of Pennsylvania, and Hugh Wilson, Esq. of St. Paul's Parish, South-Carolina, honorary members of their body.

JENNINGS O'BANNON, Secretary.

Premiums to be awarded by the Farmers' Society, of Barnwell District, on the third Monday in January, 1829.

1st. For the best crop of Indian Corn, grown on not less than five acres of upland,	- - - \$25 00
2nd. For the best crop of Indian Corn grown on not less than five acres of pond land,	- - 25 00
3d. For the greatest quantity of Hay, from one acre of land,	- - - \$10 00

A quantity of not less than 20 lbs. to be exhibited at the meeting of the Society, together with a certifi-

[June,

cate from one or more respectable neighbours, stating that the quality of the whole quantity made, is equal to that of the specimen exhibited. A preference will be given to Crow's-foot-grass.	
4th. For the best Ram and Ewe, from two to five years old, - - - - -	\$5 00
5th. For the best fifteen yards of Homespun cloth, filled with wool, - - - - -	5 00
6th. For the best fifteen yards of Homespun cloth, all cotton, - - - - -	5 00
7th. For the best crop of Yam Potatoes, made from not less than half an acre of land, and of the roots, - - - - -	5 00
8th. For the best crop of Sweet Potatoes, made from not less than half an acre of land; and from vines of the preceding year, - - - - -	10 00
9th For the most successful experiment for keeping the Sweet Potatoe, made on a quantity not less than ten bushels; one bushel to be exhibited to the Society at the meeting in July, - - - - -	10 00
10th. For the best specimen of Sugar; (not less than 25lbs. to be exhibited,) made from Sugar-Cane grown in the District, - - - - -	10 00
11th. For the finest pair of Mules, to be exhibited both under the saddle and in harness; not less than two years old, and which have been raised by the competitor, - - - - -	30 00

For the premiums for Homespun and Sugar, any inhabitant of the District may contend.

J. O'BANNON, *Secretary.*

At the Anniversary Meeting of the Agricultural Society of St. Paul's Parish, held at the Parish House, on the 5th May, Premiums were awarded to the following Candidates:

To Mr. James Jackson, for his skilful management of three Cotton Plantations, and his humane and judicious treatment of the negroes under his care—the Gold Medal, value - - - - -	\$30 00
To Major G. H. Manigault, for his thorough bred Stallion, "Mercury,"—the Gold Medal, value - - - - -	30 00
To Mr. W. L. Smith, for his Ram, of the Bakewell breed,—the Silver Medal, value - - - - -	20 00

The following Gentlemen were elected Officers of the Society for the ensuing year:—

JOHN S. ASHE, President;
JOHN LA ROCHE, Vice-President;
J. B. GRIMBALL, Secretary and Treasurer.

Awful Hail Storm.—Norfolk, 30th April.—The hail storm which passed over this town on Saturday evening last, about eight o'clock, happily without doing any serious injury here, as far as we are informed, appears to have visited the neighbouring county of Currituck, (N. C.) in a most awful and destructive character.

A letter from a gentleman in that county, to his brother in this town, dated 28th instant, thus describes it:—

"On Saturday evening last, we were visited by one of the most awful hail storms I ever witnessed. The yard of Mr. Land was almost covered with hail-stones, of the size mentioned below. So far as we have yet ascertained, it extended to an area of eight to ten miles. Some cattle, hogs, and poultry, have been killed. These stones fell with such violence, as to penetrate the roofs of many houses in the neighbourhood; and I have myself seen pieces of clap-boards, more than half an inch thick, split by them. The following were the weights and measures of several of the stones, taken with as much accuracy as possible, at least fifteen minutes after they fell. I was very particular in taking them.

1st	hail-stone weighed	-	-	5	ounces.
2nd	do.	-	-	5	do.
3rd	do.	-	-	4½	do.
4th	do.	-	-	4½	do.
5th	do.	-	-	4½	do.
6th	do.	-	-	4½	do.

Thirty-seven of the stones weighed *nine lbs.* good weight. I measured three or four of them, which held out $3\frac{1}{2}$ inches in circumference.

Indigenous Productions.—The treasures of our country, vegetable and mineral, are but half discovered, or but half applied to their proper uses. Among the vegetable productions of our country, either little known, or whose uses are but little understood, we may mention a few on account of their curiosity, as much as for their utility, which we find mentioned in the *Western Review*, —a work, whose lively descriptions of the West and its peculiarities, we advert to with pleasure.

The *Wild Rice* of the Northern Lakes, whose very existence is hardly known, except to the savages, the Canadians, and the *coureurs du bois*, who traverse these regions, is, however, next to maize, the most prolific, perhaps, of the *cereabia*. It is found in the greatest abundance on the marshy margins of the lakes, and in the plashy swamps on the upper courses of the Mississippi, where it covers a vast extent of country. It is there that the Canadian hunters and traders find their annual supplies of grain, and that the millions of migrating water-fowls fatten, before they

take the autumnal migration to the south. It very accurately resembles the Cane-Grass of the swamps, and Savannas on the Gulf of Mexico. It springs from all depths of water, from seven feet to one, where the bottom is soft and muddy, and rises from five to eight feet above water. At the time of gathering it, canoes are rowed about it, a blanket is spread on the canoes, and the grain is beaten down into the blankets. It grows in perfection as far south as Natchitoches, south of 32 deg. ; and might possibly be cultivated in any of the drowned lands, or ponds and marshes of the Atlantic country. Well prepared, it is as white as common Rice; and puddings made of it, taste like those of Sago.

The *Cane*, which every one has seen in the shape of angling rods, grows on the lower courses of the Mississippi, Arkansas, Red River, and their waters, and raises in height from fifteen to thirty feet;—the leaves abundant, and of a beautiful green; and it grows so thick, that the streams seem contiguous—while above, there is an impervious roof of verdure. The smallest sparrow could hardly fly in these cane brakes; and a man could not make a progress of three miles a-day. The burning of a cane-brake, when cut down and dried, is a singular spectacle enough. The rapid flame, with the myriads of detonations from the rarified air in the hollow compartments of the cane, nearly as loud as the report of a musket, give the idea of an army in the fury and flame of battle. At the end of five years it produces an abundant crop of farinaceous seeds, of the taste of wheat, and used like it, for bread, by the Indians and first settlers. No spot affords so rich and perennial a range for cattle, as the cane-brake. The butter from it is of the finest quality and flavour. The stem rises six feet before it loses its succulence and tenderness; and no vegetable or grass affords so rich and abundant a fodder, of so rapid a growth. It might, says the writer, be worth the experiment of sowing it annually, in regions where it will not survive the winter.

He mentions other plants which we cannot now notice; particularly, the *Dogwood*, for its restorative powers in cases of ague, which are not unknown to our administrators of simples;—the *China Tree*, for its narcotic properties, and whose bark is a powerful vermifuge,—no contemptible property, in a country as rank of animal as vegetable life;—the *Pawpaw* pulp, is an odd mixture, of the taste of eggs, cream, sugar, and spice, and is, indeed, a sort of natural custard;—the *Laurel Almond*, whose delicious flowers might be made into essences, surpassing those of the East;—and the small, deep blue *Persimmon*, which, when ripened by the frost, is sweeter than the fig, and is almost a pulp of concrete sugar. It is, says the writer, when thoroughly ripe, a pleasanter fruit than dates; and had we to obtain it from beyond seas, the kinds would be discriminated, and the best of them cultivated.—*Baltimore American*.

FOREIGN.

Elephants on a Coffee Plantation.—A gentleman who has a Coffee Plantation at Candia, in the Island of Ceylon, has recently introduced the use of *Elephants* in ploughing, with great advantage. Sir Alexander Johnston, in a curious paper, read not long since before the London Royal Asiatic Society, observes, that the number of Elephants in the Island is so great, and the population so small, that it will be of material assistance to the cultivators and manufacturers, if those animals can be generally employed in labour. He adds:—

“The trade in Elephants from Ceylon, which used to be lucrative, is now completely annihilated, in consequence of all the petty Rajahs, Poligars, and other Chiefs in the Southern Peninsula of India, who used formerly to purchase Ceylon Elephants, as a part of their equipage, having lost their Sovereignities, and being, therefore, no longer required to keep up any state of this description.”

Chinese Tallow Tree.—We understand that the Chinese Tallow Tree, or *Sedum Fecoides* of Linnaeus, has been introduced into the Mauritius, and cultivated with the greatest success. Two hundred barrels are daily expected as a sample, and the quality is said to be equal to any melted from the fat of animals. The quantity may be produced to any extent; and, we believe, is likely to supersede the trade with St. Petersburg for that article altogether.—*London Paper.*

The Potatoe Onion lately introduced into this country, will be a most valuable acquisition to gardeners, as it is known to produce in equal abundance to the potatoe, from which it derives its name; never fails, as the severe frost has no effect on it.—*Dublin Correspondent.*

Vital Principle of Seeds.—A small portion of the Royal Park of Bushy was broken up some time ago, for the purpose of ornamental culture, when immediately several flowers sprung up, of the kinds which are ordinarily cultivated in gardens; this led to an investigation, and it was ascertained that this identical plot had been used as a garden, not later than the time of Oliver Cromwell, more than one hundred and fifty years ago.—*Mon. Magazine.*

The quickest and most certain Mode of raising the Mulberry Tree, is from cuttings of the old branches. Take a branch in the month of March, eight or nine feet in length; plant it half its length in any good soil, and it will succeed to admiration, producing fruit the following spring. This I have witnessed in several instances.—*J. Youell, Yarmouth.*

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